REMARKS

Claims 1-7, 11-14 and 17-20 are amended. Claims 1-7, 11-14, 17-20, 23 and 24 are pending herein. Applicants would like to thank the Examiner for granting an interview regarding the above-identified application. The instant claims are hereby amended in response the interview. Support for the amendments may be found, at least, in paragraphs [0026] and [0027] of the subject specification.

Claims 1-7, 11-14, 17-20, 23 and 24 stand rejected under 35 U.S.C. §102(b) or 103(a) over WO 01/98201 or U.S. Patent No. 6,527,817 (Fang et al.). This rejection is respectfully traversed.

The Fang et al. documents describe polishing compositions that include a blend of fumed silica and colloidal silica. They do not disclose a span value for the abrasive. Moreover, Fang et al. only teaches a polishing dispersion with a particle size distribution defined by number. This will not necessarily result in the same particle size distribution defined by volume.

The definition of a particle size distribution by number can be significantly different than the definition of a particle size distribution by volume. For example, the particle distribution span by number may be significantly different than the particle distribution span value by volume since measurement by number does not take into account the volume of the particle. Thus, when defining particle size by number distribution or span value, if one very large particle is present, it will not significantly affect the distribution, whereas when defining a particle size distribution by volume, such a particle would significantly affect the distribution.

In addition, Fang et al. measure the properties of a blend of fumed silica and colloidal silica particles. Fang et al. does not disclose the properties of the colloidal silica. Thus, any description in Fang et al. about the particle size distribution of abrasive particles, including reference to sigma g, relates to the blend and not the colloidal silica particles.

Inherent anticipation requires that the missing descriptive material is "necessarily present," not merely probably or possibly present in the prior art. *Trinteo Industries v. Top U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002) quoting *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Additionally, facts asserted to be inherent in the prior art must be shown by evidence from the prior art. *Elan Pharmaceuticals, Inc. v. Mayo Foundation for Medical Education and Research*, 304 F.3d 1221, USPQ2d 1292 (Fed. Cir. 2001). *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (criticizing the "hindsight syndrome wherein that which only the inventor taught is used against its teacher").

The above-identified Fang et al. documents do not teach a span value and only teach a polishing dispersion with a particle size distribution defined by number. Since there is no disclosure of the span value, there is no way for Applicants to determine such a value from the Fang et al. documents, especially since the particle size distributions set forth therein are measured by number. For example, Fang et al. describes on page 3, line 34 to page 4, line 9 that the particles describe therein may possess a σ_g ($\sigma_g=d_{84}/d_{16}$) value of at least about 1.1, and preferably 1.8 – 2.3. Fang et al. also mentions that the particles may become more polydispersed as the σ_g value increases above 1. The attached declaration demonstrates that a large σ_g value for particle size distribution by number does not necessarily result in a large span value for a particle size distribution by volume (see Fig 1a). Moreover, a lower σ_g for a particle size distribution by number may result in a large span value for a particle size distribution by volume (see Figure 2a). Thus, the declaration from the inventor demonstrates that the Fang et al. references would not necessarily possess the recited span value, by number, of the present claims. On page 8 of the Office Action, the declaration is faulted as not being persuasive, but no reason is provided. The declaration clearly demonstrates that Fang et al. does not inherently or otherwise disclose a colloidal silica particle size distribution and span value as recited in the claims, as demonstrated by the calculations of sigma g, and span value by number and by volume. Thus, Applicants respectfully request reconsideration of the above-mentioned declaration.

On page 5 of the office Action, reference is made to Fang et al. (column 3, line 30), and that this portion of Fang et al. relates to particle size distribution. The reference to "15-100 nm" does not relate to span or breadth of distribution, it relates to median or mean particle size. Reference to mean particle size is unrelated to span value. For example, if 90% of the particles possess a particle size of 35-45 nm, the particles would not possess a large span value. Thus, Fang et al. does not teach a span value of 85 nm as is postulated in the Office Action..

Furthermore, when Fang et al. reference particle size distributions (e.g., column 3, line 55 to column 4, line 2), the reference is to a blend of fumed and colloidal silica particles, and not colloidal silica particles alone. It is unclear what the colloidal particle size distribution is.

Accordingly, it is submitted that the subject matter of claims 1-7, 11-14 and 17-20 are not inherently disclosed by the above-identified references, and Applicants respectfully request withdrawal of the §102 rejection.

As above-mentioned, the cited references do not even remotely suggest polishing dispersions having a particular span value and do not mention particle size distribution defined by volume. Moreover, they do not even remotely suggest why or how to obtain such a span value, or why the artisan would want a particular span value. The examiner bears the burden of establishing a *prima facie* case of obviousness, *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995), *In re Rijckaert, 9*: F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993); *In re Oetiker,* 977 F.2d 1443, 1445, 24 USPQ 2d 1443, 1444 (Fed. Cir. 1992). Only if this burden is met does the burden of coming forward with rebuttal argument or evidence shift to the applicant. *Rijckaert,* 9 F.3d at 1532, 28 USPQ2d at 1956. When the references cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned. *In re Fine,* 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

The combination of elements in a manner that reconstructs the applicant's invention only with the benefit of hindsight is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself. *Diversitech Corp v. Century Steps, Inc.,* 850 F.2d 675. 678-79, 7 USPQ2d 1315, 1318 (Fed. Cir. 1988); *In re Geiger,* 815 F.2d 686, 687, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *Interconnect Planning Corp. v. Feil,* 774 F.2d 1132, 1147, 227 USPQ 543,551 (Fed. Cir. 1985).

In the present case, Applicants submit the span value is a desirable feature that provides improved planarization in the formulation (see the Examples of the present application where small abrasive span values in CMP formulations provides inferior results). In addition, the above-mentioned declaration clearly demonstrates that a particle size distribution defined by number may be significantly different than that defined by volume, especially with regard to span value. There is simply no reference to or description of span value or particle size distribution by volume, and thus, no suggestion in Fang et al. of the polishing compositions recited in claims 1-

7, 11-14 and 17-20. In addition, the artisan would have been motivated, after reviewing the Fang et al. references, to produce a particle size distribution having a σ_g value, by number, of at least 1.1 and not a span value, by volume, as recited in the present claims. In addition, Fang et al. describe a particle size distribution of a blend of fumed silica particles and colloidal silica particles. There is simply no teaching in Fang et al. or motivation for the artisan, to prepare a colloidal silica having a particle size distribution as recited in the present claims. Moreover, due to the significant differences in the manufacture of colloidal and fumed silicas, the particle size distributions may vary considerably. Thus, it is unclear from Fang et al. as to the nature of the colloidal silica particle size distribution.

Therefore, Applicants submit that no *prima facie* case of obviousness has been set forth in the Office Action.

Accordingly, it is submitted that the subject matter of claims 1-7, 11-14 and 17-20 are not rendered obvious by the above-mentioned references. Applicants respectfully request withdrawal of this rejection.

In view of the above remarks, Applicants earnestly solicit the withdrawal of the rejections set forth in the July 31, 2009, Office Action and notification to that effect in the form of a Notice of Allowability.

Respectfully submitted,

/William D. Bunch/

William D. Bunch
Attorney for Applicant
Reg. No. 35,027

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W. R. Grace & Co.-Conn.
7500 Grace Drive
Columbia, Maryland 21044
(410) 531-4333